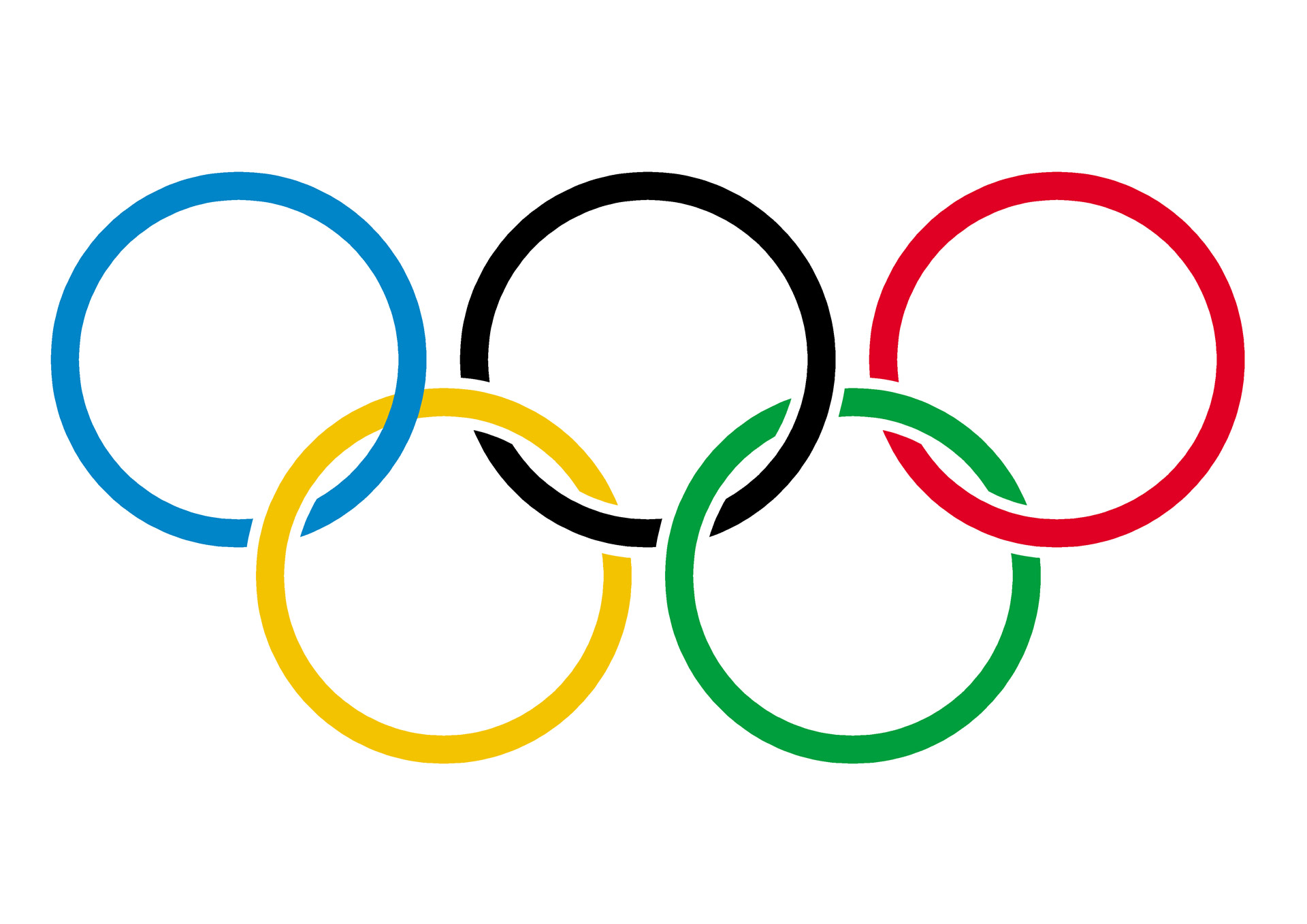
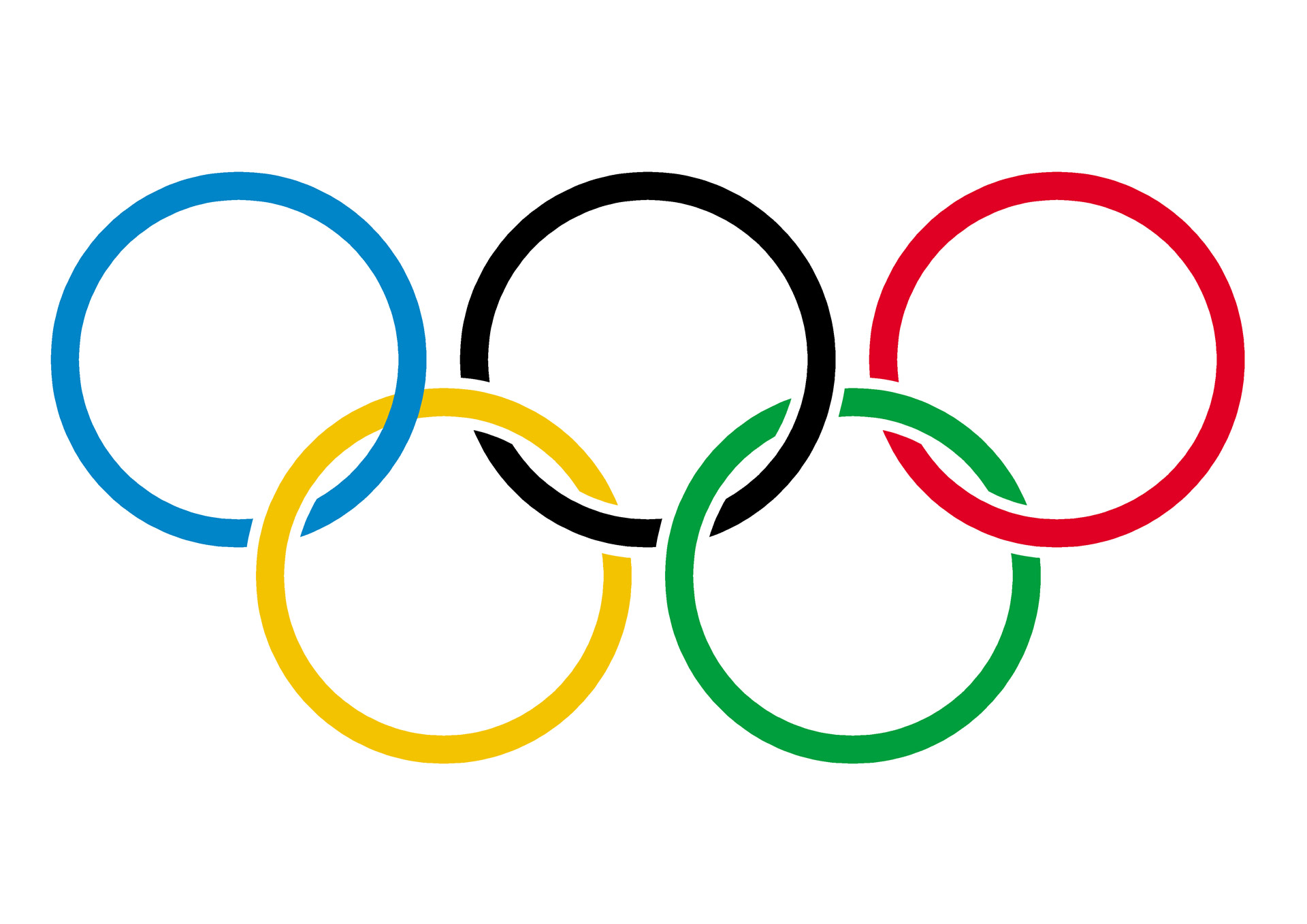
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_



**Unit Conversion Olympics**

|  |  |
| --- | --- |
| **Directions**:   * Use the **T-chart method** to solve the following unit conversion problems. * You must include all units and use the T-chart method to receive credit. * SHOW ALL OF YOUR WORK AND BOX YOUR FINAL ANSWER! * Round to the nearest decimal point. * Use the Conversion Table to the right to help you. * MAKE SURE to zero the balance so that you do not measure the mass of the container. * Don’t eat the candy. | **Conversion Table:**  1 gram = 0.035 ounces  100 grams of beans = 9 grams of protein  1 Skittle = 1.34 grams  57 grams of Skittles = 230 calories  48 M&Ms = $1.00  1 pound = 454 grams  1 meter = 39.4 inches |

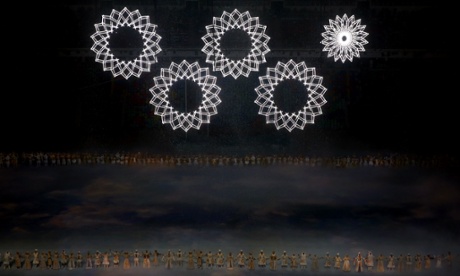
**ROUND 1:** Live Action (5 points each)

**EVENT 1: The Pasta Puzzle**

1. Predict the number of ounces of pasta you have: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Use the balance to measure the mass of the pasta in grams.
3. Determine how many ounces of pasta you have.
4. *+2: Calculate the mass of one pasta shell without using the balance.*

GIVEN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ LOOKING FOR: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

T-CHART:

**EVENT 2: The Bean Bout**

1. Use the balance to measure the mass of the beans in grams.
2. Determine how many grams of protein your sample of beans contains.
3. *+2: How many ounces of beans do you need to eat to consume 60 grams of protein?*

GIVEN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ LOOKING FOR: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

T-CHART:

**EVENT 3: The Skittle Riddle**

1. Estimate the number of calories in your cup of Skittles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Count the number of Skittles. DON’T EAT THEM!
3. Determine how many calories worth of Skittles you have without using a balance.
4. *+2: Determine the number of grams in a 250-calorie bag of Skittles (1 bag = 54 Skittles).*

GIVEN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ LOOKING FOR: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

T-CHART:

**EVENT 4: The Candy Competition**

1. Estimate how many dollars your cup of M&Ms would cost: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Count the number of M&Ms.
3. Determine how many dollars that number of M&Ms would cost.
4. *+2: There are 8 red M&Ms per bag. How many bags of M&Ms must you buy to collect 60 red M&Ms?*

GIVEN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ LOOKING FOR: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

T-CHART:

**EVENT 5: Money Matters**

1. Predict the weight in pounds of 10 pennies: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Record the mass of 10 pennies in grams.
3. Convert the mass of 10 pennies into pounds.
4. *+2: Calculate the mass in grams of 1 penny without using a balance.*

GIVEN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ LOOKING FOR: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

T-CHART:

**EVENT 6: Attack of the Ages**

1. Predict how old you are in seconds: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Determine approximately how old you are in months.
3. Convert your age in months into hours (assume 1 month = 30 days) .
4. *+2: How many hours until your 18th birthday?*

GIVEN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ LOOKING FOR: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

T-CHART:

**BONUS ROUND:**

1. Estimate how far you or a group member can jump horizontally in inches.
2. Measure in meters how far you or a group member can jump horizontally and convert it into inches.

GIVEN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ LOOKING FOR: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

T-CHART:

**ROUND 2:** Mental Matches (2 points each)

1. Colleen weighs 124 pounds. Convert this to kilograms. (1 lb. = 0.45 kilograms)
2. An aspirin tablet contains 0.325 grams of acetaminophen. How many grains is this? (1 gram = 15.432 grains)
3. How many miles will a person run during a 10 kilometer race? (1 mile = 1.61 km)

|  |  |
| --- | --- |
| Conversion Table | |
| 1 nautical mile = 6,076 feet  1 league = 5,280 yards  1 yard = 3 feet  1 fathom = 6 feet  1 mile = 5,280 feet  2 pints = 1 quart | 4 gills = 1 pint  1 liter = 1.06 quarts  1 hand = 4 inches  1 inch = 2.54 centimeters  1 meter = 100 centimeters  4 pecks = 32 quarts |

1. The moon is 250,000 miles away. How many feet is it from earth?
2. How many grams of food would you need in order to consume 2150 calories? 16.0 grams of food contain 130 calories.
3. Your cruise ship is leaving for a 610-league adventure. How many nautical miles is this? *Leagues 🡪 yards 🡪 feet 🡪 nautical miles*
4. Later the ship is discovered at 38 fathoms deep under water. Convert this to miles. *Fathoms 🡪 feet 🡪 miles*
5. You are rationed to 32 gills of fresh water a day. How many liters is this?

*Gills 🡪 pints 🡪 quarts 🡪 liters*

1. To reach the top of a palm tree for a coconut you will have to climb 7.4 meters. How many hands is this? *Meters* 🡪 *centimeters* 🡪 *inches* 🡪 *hands*
2. The island is rich with hot chili peppers. You can collect 1.6 pecks a day. How many liters could you collect in 1 week? *1 week 🡪 days 🡪* *pecks* 🡪 *quarts* 🡪 *liters*